

## **Trends in sporadic *Vibrio* infections in Foodborne Diseases Active Surveillance Network (FoodNet) sites, 1996-2002**

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**Background:** CDC estimates that 8000 cases of *Vibrio* infection occur each year in the US. However, trends in population-based incidence have not been reported for *Vibrio*.

**Methods:** Investigators in the FoodNet sites conducted population-based active surveillance for laboratory-confirmed *Vibrio* infections. Demographic, microbiological, and outcome data were obtained for case-patients from 1996 through 2002. Poisson models were used to determine the change in incidence while accounting for the change in FoodNet population size by year. *Vibrio parahaemolyticus* cases that occurred during the 1997 and 1998 outbreaks were excluded from trend analysis.

**Results:** Since 1996, 407 laboratory-confirmed *Vibrio* cases have been reported. Among the 359 (88%) speciated isolates, 216 (60%) were *V. parahaemolyticus*, 48 (13%) *V. vulnificus*, 29 (8%) *V. cholerae* (predominantly non-O1, non O139), 28 (8%) *V. fluvialis*, 21 (6%) *V. alginolyticus*, and 17 (5%) other *Vibrio* species. The median age of case-patients was 45 years (range=10 months to 85 years) and 259 (64%) were male. Sixty-one percent of cases were identified in the summer months from June through August. Of case-patients with known outcome, 100 (27%) were hospitalized (median =3.5 days) and 20 (6%) died. Patients infected with *Vibrio vulnificus* had the highest rate of invasive illness (79%), hospitalization (90%) and death (37%). After removing 43 *V. parahaemolyticus* outbreak associated cases, the annual incidence (cases/million) of sporadic *Vibrio* infection increased from 1.20 in 1996 to 2.54 in 2002 [RR=2.1, 95% CI=(1.3-

3.4)]. Combining data from all sites, the sporadic incidence increased from 1996 to 2002 for *V. vulnificus* [RR=6.6, 95%CI=(0.9-49.6)], *V. parahaemolyticus* [RR=2.2, 95% CI=(1.0-5.0)], *V. cholerae* [RR=1.8, 95% CI=(0.4-8.1)], and other *Vibrio* species [RR=3.5, 95% CI=(1.1-11.5)] while the incidence of unspiciated isolates declined slightly [RR=0.5, 95% CI=(0.2-1.2)].

**Conclusions:** Recent increases in the incidence of *Vibrio* infection in FoodNet sites have occurred independently of outbreaks due to *V. parahaemolyticus* and are not explained by decreases in unspiciated *Vibrio* isolates.